MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2018/2019

ECE3336 – MOBILE APPLICATION DEVELOPMENT

(All sections / Groups)

15 MARCH 2019
9.00 a.m – 11.00 a.m
(2 Hours)

INSTRUCTIONS TO STUDENTS

1. This Question paper consists of 4 pages with 4 Questions only (including cover page).
2. Attempt **ALL FOUR** questions. All questions carry equal marks and the distribution of the marks for each question is given.
3. Please print all your answers in the Answer Booklet provided.

Question 1

a. Explain what is the Android Support Libraries. Give an example of Android Support Libraries and its usage.

[4 marks]

b. List out the differences between testing an Android application through Android Virtual Device and real hardware.

[6 marks]

c. List out four Android Resource folders and give an example of the type of resource files that should be stored in those folders.

[8 marks]

d. Permissions for Android applications can be divided into two types based on the risks the applications pose to the users. What are the names of these types of permissions, give an example for each type of permission and briefly explain how to obtain the permission.

[7 marks]

Question 2

a. Explain the usage of the method findViewById(int id) and construct two examples using the method.

[6 marks]

b. Design and draw two main screens of a typical Android email client and label at least five user interface (UI) widgets found in each screen.

[14 marks]

c. Generate a line of Android source codes to display a Toast as shown in Figure 2.1. Which UI widget in the Android support libraries employing Material Design is being used to replace Toast and what is its advantage?

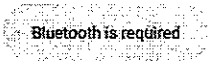

Figure 2.1 Toast.

[5 marks]

Continued .....

Question 3

a. There are two typical formats of response that web services will return to a HTTP request by an Android App.

i. What are the formats?

ii. Gives an example for each of the format on how the response is being parsed?

iii. Which format is preferred by most Android developers and state the reason.

[6 marks]

b. Write the Android source code to insert a new row of data represented by a ContentValues object into a SQLite table called "tasks" that has three columns. Those columns are the title, the description and the status. The status is represented by an integer one for completed task.

[9 marks]

c. Reading a Bluetooth Low Energy GATT Characteristic value requires the overriding of the methods onConnectionStateChange(BluetoothGatt gatt, int status, int newState), onServiceDiscovered(BluetoothGatt gatt, int status) and onCharacteristicRead(Bluetooth gatt, BluetoothGattCharacteristic characteristic, int status). Briefly explain what should be done in each method in the right sequence and state the reason the method runOnUiThread(Runnable action) is used in these methods.

[10 marks]

Continued .....

Question 4

a. Explain how speech recognition is completed in an Android application using the intent RecognizerIntent.ACTION_RECOGNIZE_SPEECH.

[9 marks]

b. List the differences between the LocationManager API and FusedLocationProvider API.

[8 marks]

c. Write the Android source code to obtain the longitude and latitude of an address using the method getFromLocationName(String locationName, int maxResults) starting from the initialization of the Geocoder.

[8 marks]

End of Page